**Lesson 2:** Condensation  
**Grade Level:** 4th grade

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| **Objective:**    By the end of the lesson, students will be able to describe what condensation is, provide examples of it, and explain where and how it occurs in the Earth’s water cycle.  . |
| **Standards:**  **ELA:**   * **C**CSS.ELA-LITERACY.SL.4.1.C: Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others. * CCSS.ELA-LITERACY.SL.4.1.D: Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.   **NGSS:**   * **4-ESS2-1**. Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation * **SEP**: Planning and carrying out investigations to answer questions or test solutions to problems in 3–5 builds on K–2 experiences and progresses to include investigations that control variables and provide * **DCI:** ESS2.A: Earth Materials and Systems * **CCC**: Patterns can be used as evidence to support an explanation. |
| **Materials/Technology:**   * Smarboard * Frozen water bottles with food coloring in each * Plastic cups (2 per group) * Tissues (1-2 per group) * Chromebooks * Access to internet at home for class Wikki |
| **Initiation:**  **-**The class will begin by going over the student’s responses to the Padlet, discussion answers, and answering any questions students may have.  -We will quickly review the concept of evaporation, and then move onto the next experiment (the second stage of the water cycle, condensation)  **Procedure:**  **-**Once the initial class discussion is complete, students will split into their assigned lab groups and begin to observe the experiment at each lab station  -Students will observe, take observation notes, and have scientific discussions regarding condensation and the water cycle  -At this time, I will be making my way  to each lab group to informally assess the students: are they taking observation notes? Are their notes related to the experiment? Is their conversation productive? Are they grasping the concept? -This is the time to address concerns, ask leading questions, and help guide students in their discovery.  -Students will have about 5 minutes of pure observation and note taking  -After that time, students will be prompted to each take a small piece of paper towel and wipe a small area on the side of the cup  -Students will realize that the water did not come from inside the cup (or else it would be the color of the water inside the cup) but is actually condensation  -The condensation appears on the outside of the cup because when the water vapor in the air comes in contact with something cool, the molecules slow down and condense into a liquid state  -When the groups have finished, the class will come together on the rug to talk about what their observations could mean  -Once groups finish the experiment, they will clean up their stations and begin recording their notes and observations from the experiment on the Wikki’s lesson 2 Padlet  At Home:  -At home, the students will use the online Wikki to explore the idea of condensation  -They will use their observation notes to respond to the Padlet regarding the second experiment; students must respond to at least two classmates  -They will complete the TedEd lesson, and take notes (that will be checked in class)  -Lastly, students will review the class notes, and view Prezi examples of condensation in real life |